

## REMARKS

Applicants have carefully reviewed the Office Action and respectfully request reconsideration in view of the foregoing amendments and the following remarks.

Claim 1 has been amended so that it is directed to an adhesive composition which is composed of i) a polychloroprene dispersion and ii) at least one adhesive resin, wherein the polychloroprene dispersion i) is a reaction product of an emulsion polymerization that comprises a) chloroprene, b) at least one ethylenically unsaturated monomer that is copolymerizable with chloroprene and c) an emulsifier, tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule. Support for this amendment is found in the specification on page 3, lines 18-32.

As suggested by the Examiner, Claim 4 has been amended to include the word "adhesive" before the word "resin".

Claim 5 has been amended to indicate that the amount of components used in the emulsion polymerization reaction is based on 100 parts by weight of chloroprene and 2,3-dichlorobutadiene. Support for this amendment is found in the specification on page 3, line 32 as well as in Example 1 (see the specification, page 9, lines 17-18).

Claims 2 and 5 stand rejected under 35 U.S.C. § 112, second paragraph. Additionally, Claims 1 and 5 have been rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 5,298,580 ("Wendling et al."). Also, Claims 1, 2 and 6 have been rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 3,872,043 ("Branlard et al."), while Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Branlard et al.. Additionally, Claims 1, 2 and 4-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 3,926,880 ("Esser et al.") in view of Wendling et al. Finally, Claim 4 was objected to based on an informality in the claim language. The objection and the rejections are respectfully traversed.

Rejection of Claims 2 and 5 under 35 U.S.C. § 112, second paragraph:

The Examiner believes that Claims 2 and 5 fail to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Specifically, the Examiner believes that the use of the term "adhesive resin" in Claim 2 renders the claim indefinite because there are hundreds, if not thousands of adhesive resins. In regard to Claim 5, the Examiner feels that the claim language "all amounts are based on 100 parts by weight of the monomers" is ambiguous.

It is well established that the test for definiteness under 35 U.S.C. § 112, second paragraph, is whether one skilled in the art would understand the bounds of the claim when read in light of the specification. See Exxon Research & Engineering Co. v. United States, 60 U.S.P.Q.2d 1272 (Fed. Cir. 2001). Such comprehension **is all** that is required by 35 U.S.C. § 112, second paragraph. See Morton International, Inc. v. Cardinal Chemical Co., 28 U.S.P.Q.2d 1190, 1194 (Fed. Cir. 1993). The Examiner's rejection of Claim 2 under 35 U.S.C. § 112, second paragraph, therefore, can be justified **only if** it can be concluded that one of ordinary skill in this art, having Applicants' disclosure and claims before him, would not understand the nature of the words "adhesive resins".

Applicants contend that the skilled artisan would understand that Applicants' claimed invention should be construed to include all adhesive resins which would produce Applicants' claimed adhesive composition. The skilled artisan, therefore, would be able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by Claim 2 of Applicants' invention. Thus, Claim 2 is not indefinite under 35 U.S.C. § 112, second paragraph. See Charvat v. Commissioner of Patents, 182 U.S.P.Q. 577, 503 F.2d 138, 150 (D.C. 1974) (finding that appellant's claim that included the words "polyurethane resins" was definite because the claim informs potential inventors that any polyurethane resin which does not produce appellant's claimed invention will not be covered by appellant's patent).

Applicants also believe that Claim 5 particularly points out and distinctly claims the subject matter which Applicants regard as their invention. However, in an effort to pass the Application to allowance, Applicants have amended Claim 5 to

indicate that the amount of components used in the emulsion polymerization reaction are based on 100 parts by weight of chloroprene and 2,3-dichlorobutadiene.

Based on the foregoing, Applicants contend that Claims 2 and 5 are not indefinite. Thus, Applicants respectfully request that the Examiner remove his rejection of Claims 2 and 5 under 35 U.S.C. § 112, second paragraph, and enter allowance of these Claims.

Rejection of Claims 1 and 5 under 35 U.S.C. § 102(b):

As mentioned above, Claims 1 and 5 stand rejected as being anticipated by Wendling et al. The Examiner believes that Wendling et al. discloses a composition which is composed of a polychloroprene dispersion containing a tricyclic diterpenecarboxylic acid having at least two conjugated C=C bonds per molecule.

In order for a reference to anticipate, the claimed invention must be the same as that of the reference. See Glaverbel Societe Anonyme v. Northlake Marketing & Supply Inc., 45 F.3d 1550, 33 U.S.P.Q.2d 1496, 1498 (Fed. Cir. 1995). Any degree of physical difference, however slight, invalidates a claim of anticipation. See Ultradent Products Inc. v. Life-Like Cosmetics Inc., 39 U.S.P.Q. 2d 1969, 1980 (Utah 1996). Applicants' claimed invention is not the same as the invention disclosed in Wendling et al. As a result, Wendling et al. does not anticipate Applicants' claimed invention. Support for the foregoing position is found in amended Claims 1 and 5 of Applicants' invention.

Claims 1 and 5, as amended, are directed to an adhesive composition which is composed of a polychloroprene dispersion and an adhesive resin. Wendling et al. does not disclose an adhesive composition which is composed of a polychloroprene dispersion and an adhesive resin. Rather, Wendling et al. simply discloses a polychloroprene dispersion which can be vulcanized with vulcanization chemicals and molded in a metal mold. See Wendling et al., column 2 lines 13-14 and column 4, lines 62-68.

Based on the foregoing, Applicants contend that amended Claims 1 and 5 are patentable over Wendling et al. Applicants therefore respectfully request that the

Examiner remove his rejection of Claims 1 and 5 under 35 U.S.C. § 102(b) and enter allowance of these Claims.

Rejection of Claims 1, 2 and 6 under 35 U.S.C. § 102(b):

Claims 1, 2 and 6 stand rejected as being anticipated by Branlard et al. The Examiner believes that Branlard et al. discloses a process for chloroprene polymerization in the presence of an emulsifying system comprising 1.8 - 3 wt. % of resinic acid and that an adhesive composition is prepared using 100 parts by weight of the resulting polychloroprene rubber, 5 parts zinc oxide, 8 parts magnesium oxide and 40 parts phenolic resin.

As mentioned above, **any** degree of physical difference, however slight, invalidates a claim of anticipation. Applicants' claimed invention is not the same as the invention that is disclosed in Branlard et al. As a result, Branlard et al. does not anticipate Applicants' claimed invention. Support for the foregoing position is found in amended Claim 1 of Applicants' invention.

Claim 1; as amended, is directed to an adhesive composition which is composed of i) a polychloroprene dispersion and ii) at least one adhesive resin, wherein the polychloroprene dispersion i) is a reaction product of an emulsion polymerization that comprises a) chloroprene, b) an **ethylenically unsaturated monomer** that is copolymerizable with chloroprene and c) as emulsifier, tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule. Branlard et al. does not disclose an adhesive composition which is composed of a polychloroprene dispersion that is a reaction product of an emulsion polymerization that comprises a) chloroprene, b) **ethylenically unsaturated monomer** and c) as emulsifier, tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule. Rather, Branlard et al. discloses a polychloroprene dispersion that is prepared by polymerizing **100 parts by weight chloroprene** in the presence of a binary or ternary emulsifying system and an aqueous solution of ammonium persulfate. See Branlard et al., column 3, lines 62-67 and column 5, lines 12-14.

Based on the foregoing, Applicants contend that amended Claim 1 and Claims 2 and 6 are patentable over Branlard et al. Applicants therefore respectfully request that the Examiner remove his rejection of Claims 1, 2 and 6 under 35 U.S.C. § 102(b) and enter allowance of these Claims.

Rejection of Claim 3 under 35 U.S.C. § 103(a):

Claim 3 stands rejected as being obvious in view of Branlard et al. As mentioned above, the Examiner believes that Branlard et al. discloses a process for chloroprene polymerization in the presence of an emulsifying system comprising 1.8 - 3 wt.% of resinic acid and that an adhesive composition is prepared using 100 parts by weight of the resulting polychloroprene rubber, 5 parts zinc oxide, 8 parts magnesium oxide and 40 parts phenolic resin. The Examiner states that he believes the adhesive composition of Branlard et al. is essentially the same as the adhesive composition of Applicants' claimed invention. As a result, the Examiner concludes that there is sufficient reason to believe that the adhesive composition of Branlard et al. would have the same open time as that of Applicants' claimed invention.

Applicants respectfully disagree with the Examiner's assessment of the disclosure contained in Branlard et al. It is Applicants' position that Branlard et al. do not disclose essentially the same adhesive composition as that claimed in Applicants' invention.

Applicants' claimed invention is directed to an adhesive composition which is composed of i) a polychloroprene dispersion and ii) at least one adhesive resin, wherein the polychloroprene dispersion i) is a reaction product of an emulsion polymerization that comprises a) chloroprene, b) an **ethylenically unsaturated monomer** that is copolymerizable with chloroprene and c) an emulsifier, tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule. Branlard et al., on the other hand, discusses an adhesive composition which is prepared by combining, in addition to other components, zinc oxide, magnesium oxide and a phenolic resin with a polychloroprene rubber which has been prepared by polymerizing **100 parts by weight chloroprene** in the presence of a binary or ternary emulsifying system and an aqueous solution of ammonium

persulfate. See Branlard et al., column 3, lines 62-67 and column 5, lines 12-14. Since the polychloroprene dispersion of Branlard et al. is not essentially the same as the polychloroprene dispersion of Applicants' claimed invention, it cannot be assumed that the adhesive composition of Branlard et al. is essentially the same as that of Applicants' claimed invention. Hence, there is no reason to believe that the adhesive composition of Branlard et al. would exhibit the same open time as that of Applicants' claimed invention.

A rejection under 35 U.S.C. §103(a) must be based in fact. There is no factual basis to support the Examiner's rejection of Claim 3 under 35 U.S.C. § 103(a) in view of Branlard et al. Applicants therefore respectfully request that the Examiner withdraw his rejection of Claim 3 under 35 U.S.C. § 103(a) and enter allowance of this Claim.

Rejection of Claims 1, 2 and 4-6 under 35 U.S.C. § 103(a):

Claims 1, 2 and 4-6 stand rejected as being unpatentable over Esser et al. in view of Wendling et al. The Examiner believes that Esser et al. discloses a process for preparing chloroprene polymer lattices containing up to 20% of 2,3-dichlorobutadiene by emulsion polymerization using disproportionated abietic acid or abietic acid derivatives as the emulsifier. The Examiner concedes that Esser et al. does not teach the use of unmodified resin acids.

The Examiner believes that Wendling et al. discloses that the use of tricyclic diterpenecarboxylic acid having at least two conjugated C=C bonds per molecule are useful in forming polychloroprene dispersions of chloroprene and 2,3-dichlorobutadiene with the advantages of minimal tendency to foul molds and minimal wastewater pollution.

In regard to Claim 1, the Examiner believes that one having ordinary skill in the art, after reading Wendling et al. and Esser et al., would have found it obvious to substitute the emulsifier of Esser et al. with the emulsifier of Wendling et al. in order to minimize problems associated with wastewater pollution because the emulsifier of Wendling et al. is functionally equivalent to the emulsifier of Esser et al. Applicants

disagree with the Examiner and contend that Claim 1 is not obvious in view of Esser et al. and Wendling et al.

As mentioned above, a rejection under 35 U.S.C. §103(a) must be based in fact. There is no factual basis that supports the Examiner's position that the emulsifier of Wendling et al. is functionally equivalent to the emulsifier of Esser et al. In fact, the data contained in Table 1 of Wendling et al. appears to illustrate just the opposite.

As shown by the data in Table 1 of Wendling et al., a polychloroprene dispersion which is composed of chloroprene, 2,3-dichlorobutadiene and, as emulsifier, **disproportionated abietic acid**, has a **great** tendency to foul metal molds. See Wendling et al., column 8, lines 16-18 and Comparative Example 3. However, Table 1 also shows that a polychloroprene dispersion which is composed of chloroprene, 2,3-dichlorobutadiene and, as emulsifier, **unmodified resinic acid based on tall oil**, has only a **slight** tendency to foul a metal mold. See Wendling et al., column 8, lines 57-61 and Example 1.

Given the data set forth in Table 1 of Wendling et al., it appears that, contrary to the Examiner's statement, the emulsifier of Wendling et al. (for example, unmodified resinic acid based on tall oil) is **not** functionally equivalent to the emulsifier of Esser et al. (for example, disproportionated abietic acid). Compare Example 1 of Wendling et al. to Comparative Example 3 of Wendling et al. Thus, considering the foregoing, it is Applicants' contention that the skilled artisan would have had no motivation to modify the emulsifier of Esser et al. with the emulsifier of Wendling et al.

Notwithstanding the foregoing, Applicants also contend that the skilled artisan, after reading Wendling et al., would have had no motivation to modify the emulsifier of Esser et al. because Esser et al. does not set forth a need to minimize problems associated with pollution. Applicants' support for this position is found in the data contained in Tables 1 and 2 of Wendling et al.

As mentioned above, Table 1 of Wendling et al. shows that a polychloroprene dispersion which is composed of chloroprene, 2,3-dichlorobutadiene and, as

emulsifier, **disproportionated abietic acid**, has a **great** tendency to foul metal molds while a polychloroprene dispersion which is composed of chloroprene, 2,3-dichlorobutadiene and, as emulsifier, **unmodified resinic acid based on tall oil**, has only a **slight** tendency to foul metal molds. See Wendling et al., column 8, lines 57-61, Example 1 and Comparative Example 3. However, there is **no discussion** in Wendling et al. (or, for that matter, in Esser et al.) that the preparation of a polychloroprene dispersion composed of chloroprene, 2,3-dichlorobutadiene and, as emulsifier, **disproportionated abietic acid**, presents pollution problems.

Table 2 of Wendling et al. does show, however, that the COD values of wastewater accumulating during the work up of a polymer based on a polychloroprene dispersion prepared by a process that involves combining chloroprene, 2,3-dichlorobutadiene and, as emulsifier, disproportionated abietic acid, in the presence of a **large quantity poly-p-styrene sulfonic acid**, are **very high**. See Wendling et al., Table 2, Comparative Example 1 and column 7, lines 63-66. Thus, problems associated with wastewater pollution that arise during the work-up of a polymer based on a polychloroprene dispersion prepared by a process that involves combining chloroprene, 2,3-dichlorobutadiene and, as emulsifier, disproportionated abietic acid, **occur as a result of the use of large quantities of poly-p-styrene sulfonic acids, not as a result of the use of disproportionated abietic acid**. See Wendling et al., column 1, lines 64-68 and column 2, lines 1-2; Compare Wendling et al., Comparative Examples 1 and 3.

Esser et al. discusses the preparation of a polychloroprene latex by emulsion polymerization of chloroprene and a comonomer in the presence of disproportionated abietic acid as emulsifier. Esser et al. **does not** discuss the use of poly-p-styrene sulfonic acids in the preparation of the polychloroprene latex. Since the preparation of the polychloroprene latex of Esser et al. does not present a pollution problem which needs to be minimized, the skilled artisan would have had no motivation to modify the emulsifier of Esser et al. with the emulsifier of Wendling et al. in order, as stated by the Examiner, to minimize problems associated with pollution.

Like Claim 1, Claim 2 is also not obvious in view of Esser et al. and Wendling et al. The Examiner believes that Claim 2 is obvious in view of the aforementioned references because Esser et al. discloses the use of zinc oxide, magnesium oxide and adhesive resins. While Esser et al. may disclose the preparation of an adhesive composition that involves combining zinc oxide and an adhesive resin with a polychloroprene latex, Esser et al. does not disclose the preparation of an adhesive composition that involves combining zinc oxide and an adhesive resin with a polychloroprene dispersion that is a reaction product of an emulsion polymerization that comprises chloroprene, at least one ethylenically unsaturated monomer that is copolymerizable with chloroprene and, as emulsifier, **tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule**. See the specification, page 13, lines 3-5. Claim 2, therefore, is not obvious in view of Esser et al. and Wendling et al.

Claim 4 is also not obvious in view of Esser et al. and Wendling et al. The Examiner's position is that Esser et al. discloses essentially the same material as Applicants' claimed invention. Thus, the Examiner opines that there is sufficient reason to believe that the softening point of the terpenephenol resin of Esser et al. will possess the same softening point as the terpenephenol resin of Applicants' claimed invention.

While Esser et al. may disclose the preparation of an adhesive composition that involves combining a terpenephenol resin with a polychloroprene latex, Esser et al. does not disclose the preparation of an adhesive composition that involves combining a terpenephenol resin with a polychloroprene dispersion that is a reaction product of an emulsion polymerization that comprises chloroprene, at least one ethylenically unsaturated monomer that is copolymerizable with chloroprene and, as emulsifier, **tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule**. Since the polychloroprene latex of Esser et al. is not essentially the same as the polychloroprene dispersion of Applicants' claimed invention, it cannot be assumed that the adhesive composition of Esser et al. is essentially the same as that of Applicants' claimed invention. Hence, there is no

reason to believe that the terpenephenol resin used in the adhesive composition of Esser et al. would exhibit the same softening point as the terpenephenol used in the adhesive composition of Applicants' claimed invention. Claim 4, therefore, is not obvious in view of Esser et al. and Wendling et al.

Applicants contend that Claim 5 is not obvious in view of Esser et al. and Wendling et al. The Examiner believes that Esser et al. discloses the use of up to 20% of a comonomer in the preparation of polychloroprene dispersions containing 2,3-dichlorobutadiene. Based on the foregoing disclosure, the Examiner concludes that the skilled artisan would have found it obvious from the disclosures of Esser et al. and Wendling et al. to arrive at Applicants' claimed invention.

While Esser et al. may disclose the preparation of a polychloroprene latex that involves combining chloroprene and a comonomer, Esser et al. does not disclose the preparation of a polychloroprene dispersion that is a reaction product of an emulsion polymerization that comprises chloroprene, at least one ethylenically unsaturated monomer that is copolymerizable with chloroprene and, as emulsifier, **tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule**. Claim 5, therefore, is not obvious in view of Esser et al. and Wendling et al.

Finally, Claim 6 is not obvious in view of Esser et al. and Wendling et al. The Examiner believes that the skilled artisan would have found it obvious to use Applicants' claimed adhesive composition for a contact adhesive. As argued above, Applicants' claimed adhesive composition is not obvious in view of Esser et al. and Wendling et al. Thus, a contact adhesive which is composed of the novel adhesive composition of Applicants' claimed invention is also not obvious in view of Esser et al. and Wendling et al. Claim 6, therefore, is not obvious in view of Esser et al. and Wendling et al.

Based on the foregoing arguments, Applicants contend that amended Claims 1, 4 and 5 and Claims 2 and 6 are patentable in view of Wendling et al. and Esser et al. Applicants therefore respectfully request that the Examiner remove his rejection

of Claims 1, 2 and 4-6 under 35 U.S.C. § 103(a) and enter allowance of these Claims.

CONCLUSION

For the foregoing reasons, Applicants respectfully request: that the amendment to Claims 1, 4 and 5 be entered; that the rejection of Claims 2 and 5 under 35 U.S.C. § 112, second paragraph, be withdrawn; that the rejection of Claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by Wendling et al. be withdrawn; that the rejection of Claims 1, 2 and 6 under 35 U.S.C. § 102(b) as being anticipated by Branlard et al. be withdrawn; that the rejection of Claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Branlard et al. be withdrawn; that the rejection of Claims 1, 2 and 4-6 under 35 U.S.C. § 103(a) as being unpatentable over Esser et al. in view of Wendling et al. be withdrawn; that the objection to Claim 4 be removed; and that pending Claims 1-6 be allowed to issue as a U.S. patent.

Respectfully submitted,

By Thomas W. Roy  
Thomas W. Roy  
Attorney for Applicants  
Reg. No. 29,582

Bayer Corporation  
100 Bayer Road  
Pittsburgh, Pennsylvania 15205-9741  
(412) 777-8345  
FACSIMILE PHONE NUMBER:  
(412) 777-8363

s:/sr/roy/twr0250



## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### IN THE CLAIMS:

1. (Once Amended, Marked-Up) An adhesive composition comprising i) a polychloroprene dispersion [containing a], and ii) at least one adhesive resin, wherein the polychloroprene dispersion i) is a reaction product of an emulsion polymerization that comprises a) chloroprene, b) at least one ethylenically unsaturated monomer that is copolymerizable with chloroprene and c) as emulsifier, tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule.

4. (Once Amended, Marked-Up) The adhesive composition of Claim 2 wherein the adhesive resin comprises a terpenephenol resin having a softening point above 110°C.

5. (Once Amended, Marked-Up) A process for preparing an adhesive composition [based on] comprising combining i) a polychloroprene dispersion [containing a tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule which], and ii) an adhesive resin, wherein the polychloroprene dispersion i) is prepared by emulsion polymerization that comprises reacting [by emulsion polymerization] a) chloroprene with b) from 2 to 20 parts by weight of 2,3-dichlorobutadiene in the presence of c) from 1 to 10 parts by weight of a tricyclic diterpenecarboxylic acid having at least two conjugated C=C double bonds per molecule as emulsifier, wherein [all] amounts in the emulsion polymerization reaction are based on 100 parts by weight of [the monomers] a) and b).